

EXHIBIT 4



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TSAI, CAROL S W

ART UNIT	PAPER NUMBER
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2857

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

12/005,229

Applicant(s)

MOSKOWITZ ET AL.

Examiner

CAROL S. TSAI

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-24 and 26-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-24 and 26-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/29/2008</u> | 6) <input type="checkbox"/> Other: _____ |

Application/Control Number: 12/005,229
Art Unit: 2857

Page 2

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 21 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,346,472. Although the conflicting claims are not identical, they are not patentably distinct from each other because a later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. *In re Longi*, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); *In re Berg*, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). ELI LILLY

BLU001028

Application/Control Number: 12/005,229
Art Unit: 2857

Page 3

AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 33-52 and 54 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

5. The claimed invention are directed to a judicial exception to 35 U.S.C. 101 (i.e., an abstract idea, natural phenomenon, or law of nature) and is not directed to a practical application of such judicial exception (e.g., because the claim does not require any physical transformation and the invention as claimed does not produce a useful, concrete, and tangible result) because claims 33-52 and 54 appear to be directed to a electronic system for monitoring and analyzing at least one signal that are nothing more than a thought or a computation within a processor, rather than a real world result (i.e. merely manipulating data without causing a physical transformation to occur outside the system) upon various types of data, and have no “useful, concrete, and tangible” result, such as causing a device to perform a function.

6. Signals Per se are not statutory subject matter. The combination of signals with statutory physical structure (readable memory) may be statutory subject matter if a useful, concrete and tangible result is produced. Claims to data structure (signals) stored in a memory are statutory subject matter because of the statutory nature of the memory. In re Lowry, 32 F.3d 1579, 1583-

Application/Control Number: 12/005,229
Art Unit: 2857

Page 4

84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency).

7. A process is statutory if it requires physical acts to be performed outside the computer independent of and following the steps to be performed by a programmed computer, where those acts involve the manipulation of tangible physical objects and result in the object having a different physical attribute or structure. A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See AT &T, 172 F.3d at 1358, 50 USPQ2d at 1452. The claimed invention is directed to non-statutory subject matter because the method does not transform an article or physical object to a different state or thing (NOTE: transformation of data is not “physical transformation,” nor are physical acts necessarily a “physical transformation.”) and does not produce a concrete, tangible and useful result.

8. As to claim 33, the result is “determining the distribution status for the created data signal abstract based on the comparison” which is not tangible and not useful because this result of “**the distribution status for the created data signal abstract based on the comparison is determined**” is not being conveyed to someone or something for making its usefulness immediately apparent to those familiar with the technological field of the invention. Brenner v. Manson, 383 U.S. 519, 148 USPQ 689 (1966); In re Ziegler, 992 F.2d 1197, 26 USPQ2d 1600 (Fed. Cir. 1993). The examiner submits that the claimed method merely manipulates an abstract idea without limitation to a practical application because claims that do not result in physical transformation cover mental processes and therefore attempt to patent human intelligence in of

Application/Control Number: 12/005,229
Art Unit: 2857

Page 5

itself are nonstatutory. In other words, although the claim appears to fall into a statutory category (process), they are not truly process claims because it does not manipulate subject matter of difference statutory category.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claims 22-24, 26-40, 43-46, 48-52, and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. 6,088,455 to Logan et al.

11. With respect to claims 21, 28, 30, 33, and 43, Logan et al. disclose an electronic system for monitoring and analyzing at least one signal, comprising: a first input (compression buffer (not shown)) that receives at least one reference signal (identification signal (not shown)) to be monitored (see col. 2, lines 51-53 and col. 6, lines 24-27), a first processor (data processor 28

Application/Control Number: 12/005,229
Art Unit: 2857

Page 6

shown on Fig. 1) that creates an abstract of each reference signal input to said first processor through said first input (see col. 7, lines 30-43); a second input (receiver 12 shown on Fig. 1) that receives at least one query signal (broadcast signal (not shown)) to be analyzed (see Abstract, lines 4-6; col. 2, lines 41-43; and col. 4, line 66 to col. 5, line 31), a second processor (a digital processor 14 shown on Fig. 1) that creates an abstract of each query signal (see col. 2, lines 43-51 and col. 5, lines 2-5 and lines 11-15); a reference database (computer memory 30 shown on Fig. 1) that stores abstracts of each at least one reference signal (see col. 7, lines 23-30); a comparing device (comparator 50 shown on Fig. 2) that compares an abstract of said at least one query signal to the abstracts stored in the reference database to determine if the abstract of said at least one query signal matches any of the stored abstracts (see Abstract, lines 7-10; col. 2, lines and col. 8, line 39 to col. 9, line 6).

12. As to claims 22, 23, 49, and 50, Logan et al. also disclose said second input being remotely coupled to the system (see Fig. 1 and col. 4, lines 53-65 and col. 5, lines 12-31).

13. As to claim 24, Logan et al. also disclose the system transmitting the criteria that are being used by the first processor to the second processor (see col. 12, lines 2-14).

14. As to claim 26, Logan et al. also disclose the stored abstracts comprising a self-similar representation of at least one reference signal (see col. 6, line 60 to col. 7, line 1).

15. As to claims 27 and 39, Logan et al. also disclose information corresponding to two versions of at least one reference signal (see col. 10, lines 9-20).

16. As to claims 29 and 36, Logan et al. also disclose the characteristics of the reference signal being described comprising at least one of a perceptible characteristic, a cognitive

Application/Control Number: 12/005,229
Art Unit: 2857

Page 7

characteristic, a subjective characteristic, a perceptual quality, a recognizable characteristic or combinations thereof (see col. 12, lines 2-7).

17. As to claims 30 and 40, Logan et al. also disclose data unique to each variation of its corresponding reference signal (see col. 14, lines 34-39).

18. As to claims 31 and 37, Logan et al. do not disclose expressly a cryptographic protocol to the abstract of said reference signal, said query signal, or both said reference signal and said query signal.

19. It is, however, considered inherent that Logan et al. include a cryptographic protocol to the abstract of said reference signal, said query signal, or both said reference signal and said query signal (see col. 9, lines 49-60), because such element is known to be necessary in order that cryptographic information can be used when the video signal component is encrypted.

20. As to claim 32, Logan et al. also disclose the cryptographic protocol being one of at least a hash or digital signature and further comprising storing the hashed abstract and/or digitally signed abstract (see col. 7, line 66 to col. 8, line 12).

21. As to claims 34 and 38, Logan et al. also disclose the database being created by at least one of a music company, a movie studio, an image archive, an owner of a general computing device, a user of the data signal, an internet service provider, an information technology company, a body politic, a telecommunications company and combinations thereof (see col. 5, lines 32-36).

22. As to claim 35, Logan et al. also disclose at least one of images, audio, video, and combinations thereof (see col. 2, lines 56-58).

Application/Control Number: 12/005,229
Art Unit: 2857

Page 8

23. As to claim 44, Logan et al. also disclose each signal abstract comprising a link to its corresponding signal (see col. 5, lines 11-20).
24. As to claims 45 and 46, Logan et al. also disclose the comparing device determining if the signal abstracts stored in the database are authorized (see col. 9, lines 49-60).
25. As to claim 51, Logan et al. also disclose the device for retrieving the signal and the device for conducting transactions comprising the same device (see col. 2, lines 51-53).
26. As to claim 48, Logan et al. also disclose the plurality of abstracts stored in the reference database are derived from one of data reduced versions of said corresponding signals, compressed variations of said corresponding signals, bit-addressable relationships between said corresponding signals, and a least amount of data required to uniquely identify each corresponding signal, and combinations thereof (see col. 2, lined 39-61).
27. As to claims 52 and 54, Logan et al. also disclose an embedder to watermark signals with uniquely identifiable information (see col. 9, lines 47-60).

Claim Rejections - 35 USC § 103

28. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

29. Claims 41 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Logan et al. in view of U. S. Publication 2001/0043594 to Ogawa et al.

BLU001034

Application/Control Number: 12/005,229
Art Unit: 2857

Page 9

30. As noted above, with respect to claims 41 and 47, Logan et al. disclose the claimed invention, except for storing information associated with the comparison step to enable at least one of a re-calibration of the database, a heuristic-based adjustment of the database, a computational efficiency adjustment of the database, an adjustment for database collisions and/or null cases, changes to the recognition or use parameters governing the database and combinations thereof.

31. Ogawa et al. teach storing information associated with the comparison step to enable at least one of a re-calibration of the database, a heuristic-based adjustment of the database, a computational efficiency adjustment of the database, an adjustment for database collisions and/or null cases, changes to the recognition or use parameters governing the database and combinations thereof (see Paragraph 0233).

32. Claims 42 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Logan et al. in view of U. S. Patent No. 5,210,820 to Kenyon.

33. As noted above, with respect to claims 42 and 53, Logan et al. disclose the claimed invention, except for applying one of a relatedness index or measure of similarity to generate uniquely identifiable information to determine distribution status.

34. Kenyon teaches applying one of a relatedness index or measure of similarity to generate uniquely identifiable information to determine distribution status (see col. 8, lines 11-40).

35. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Logan et al.'s method to include applying one of a relatedness index or measure of similarity to generate uniquely identifiable information to determine

Application/Control Number: 12/005,229
Art Unit: 2857

Page 10

distribution status, as taught by Kenyon, in order to accurately recognize and classify a large number of unique broadcast signals on a plurality of broadcast channels simultaneously and with high reliability.

Contact Information

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAROL S. TSAI whose telephone number is (571)272-2224. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramos-Feliciano S. Eliseo can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 27, 2008
Art Unit 2857
/Carol S Tsai/
Primary Examiner, Art Unit 2857

BLU001036